The Department of Microbiology and Immunology offers formal admission to the Doctor of Philosophy degree program and participates in the Medical Scientist Training Program (see the Medical Scientist Training Program section of the catalog for more information). The department carries out basic research in the areas of immunology, virology, and microbial molecular biology. Research leading to a graduate degree is available in the general areas of molecular, cellular, and tumor immunology; molecular biology and genetics of prokaryotes; and molecular biology of viruses.

### Admission and Degree Requirements

- **MS in Microbiology and Immunology** (See listing for PhD in Microbiology and Immunology)
- **PhD in Microbiology and Immunology**

#### MIM 551. Advanced Immunology. 2 hours.

Concepts in immunochemistry, immunogenetics, molecular immunology, cellular immunology and immunopathology at the intermediate level. Course Information: Prerequisite(s): GCLS 501, GCLS 502, GCLS 503 and GCLS 510 or consent of the instructor.

#### MIM 553. Molecular Biology of Viruses. 2 hours.

Animal viruses including basic structure and viral nucleic acids; emphasizes molecular organization of viral genomes; cellular and molecular events during virus replication and viral transformation. Course Information: Prerequisite(s): GCLS 501, GCLS 502, GCLS 503, and GCLS 511 or consent of the instructor.

#### MIM 554. Molecular Aspects of Microbiology. 3 hours.

Basic concepts of prokaryotic and eukaryotic genetics; gene structure and function; gene expression; molecular aspects of mutation and recombination; chromosome structure and function. Course Information: Prerequisite(s): BCHE 460.

#### MIM 560. Microbial Pathogenesis. 2 hours.

Genetics, molecular biology and physiology of pathogenic bacteria, and host-pathogen interactions. Course Information: Credit is not given for MIM 560 if the student has credit for MIM 552. Prerequisite(s): GCLS 501, GCLS 502, GCLS 503, and GCLS 511 or consent of the instructor.